

III. REMARKS

1. Applicant appreciates the Examiner's indication of allowable subject matter in claims 3-6. However, for the reasons stated below, Applicant believes that claims 1, 2 and 7-14 are separately patentable.

2. Claims 1-2 and 7-13 are not anticipated by Boehm (WO 98/20706) under 35 U.S.C. §102(b).

Applicant's invention recites associating the direction dependent filtering arrangement with at least one sound source and using the filtering arrangement and set of parameters to convert a first signal representing the sound emitted by the at least one sound source into a second signal representing a directed sound. This is not disclosed or suggested by Boehm.

Boehm discusses the calculations required to project sound from an existing (MPEG) stream to the loudspeakers of an actual sound reproduction system. Boehm never considers the modelling of the sound sources as such, but assumes that some modelling has been done already and the sound sources with additional information e.g. about their location already exists in an electronic form. Broadly speaking, the sound source stream that is brought as an input to Boehm's system could well be one produced according to Applicant's invention.

The portions of Boehm referred to by the Examiner on page 6, relate to "diffraction" rather than a "direction dependent filtering arrangement" as claimed by Applicant. It is noted that "diffraction" is a property of a hole where the sound passes through. It is not a property of the sound source itself. This is referred to by Boehm on page 6, lines 17-18.

Boehm does not disclose or suggest associating the direction dependent filtering arrangement with at least one sound source. The portion of Boehm referred to by the Examiner, page 6, lines 32-36, discusses calculating the "diffraction attenuation" and using filters with defined group delay times. This is not the same as what is claimed by Applicant.

Boehm relates to considering the "diffraction" that occurs at the loud speakers or window openings. Boehm merely states that to consider these diffraction effects, the diffraction has to be calculated by the sum of all sound paths "by means of a specific hole geometry."

This is not the same as Applicant's invention where the direction dependent filtering arrangement is associated with the at least one sound source and the first signal is converted into the second signal by the filtering arrangement in a manner determined by the set of parameters.

Thus, claim 1 is not anticipated. Claims 2 and 7-10 should be allowable at least by reason of their respective dependencies.


Claim 11 is also not anticipated for similar reasons as stated above. Boehm does not rely on modeling of sound sources as claimed by Applicant. Boehm also does not create a filter bank of parameterized filters in order to "model how the sound is directed from the sound sources." Thus, claim 11 is not anticipated by Boehm. Claims 12-13 should be allowable at least by reason of their respective dependencies.

3. Claim 14 is not unpatentable over Boehm under 35 U.S.C. §103(a). Claim 14 should be allowable at least by reason of its dependency on claim 11. As noted previously, Boehm does not disclose or suggest adding parameters representing parameterized filters as is described and claimed by Applicant.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

A check in the amount of \$430 is enclosed for a two-month extension of time. The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,


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22 November 2004
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